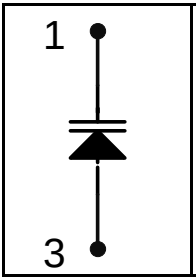
SOT23 SILICON VARIABLE CAPACITANCE DIODES

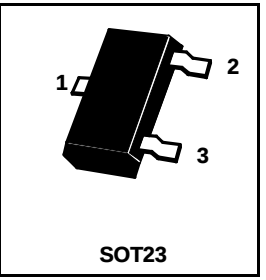
ISSUE 5 – JANUARY 1998

ZC830/A/B to ZC836/A/B

FEATURES

* Close Tolerance C-V Characteristics
* High Tuning Ratio
* Low I_R
  Enabling Excellent Phase Noise Performance
  (I_R Typically <200pA at 25V)





SOT23

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	MAX	UNIT
Forward Current	I_F	200	mA
Power Dissipation at T_{amb}=25°C	P_{tot}	330	mW
Operating and Storage Temperature Range	T_j:T_{stg}	-55 to +150	°C

ELECTRICAL CHARACTERISTICS (at T_{amb}=25°C)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	CONDITIONS
Reverse Breakdown Voltage	V_{BR}	25			V	I_R=10μA
Reverse Voltage Leakage	I_R		0.2	10	nA	V_R=20V
Temperature Coefficient of Capacitance	η		0.03	0.04	%/°C	V_R=3V, f=1MHz

TUNING CHARACTERISTICS (at T_{amb}=25°C)

PART NO	Nominal Capacitance (pF) V_R=2V, f=1MHz			Minimum Q @ V_R=3V f=50MHz	Capacitance Ratio C_2 / C_{20} at f=1MHz	
	MIN	NOM	MAX		MIN	MAX
ZC830A	9.0	10.0	11.0	300	4.5	6.0
ZC831A	13.5	15.0	16.5	300	4.5	6.0
ZC832A	19.8	22.0	24.2	200	5.0	6.5
ZC833A	29.7	33.0	36.3	200	5.0	6.5
ZC834A	42.3	47.0	51.7	200	5.0	6.5
ZC835A	61.2	68.0	74.8	100	5.0	6.5
ZC836A	90.0	100.0	110.0	100	5.0	6.5

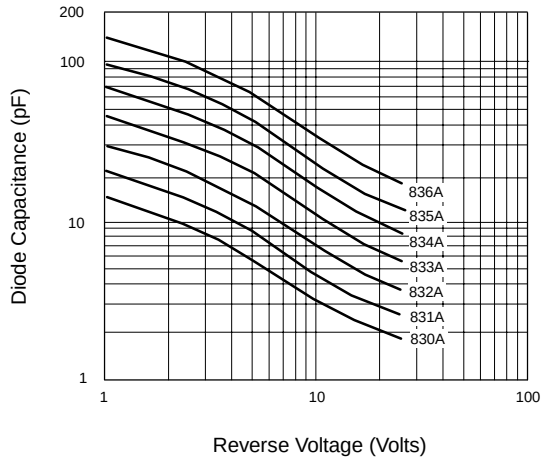
Note:

No suffix ±20% (e.g. ZC830), suffix B ± 5% (e.g. ZC830B)
Spice parameter data is available upon request for this device

ZC830/A/B to ZC836/A/B

PARTMARKING DETAILS

PART NO	PARTMARK	PART NO	PARTMARK	PART NO	PARTMARK
ZC830	J1S	ZC830A	J1A	ZC830B	J1B
ZC831	J3S	ZC831A	J3A	ZC831B	J3B
ZC832	J4S	ZC832A	J4A	ZC832B	J4B
ZC833	J2S	ZC833A	J2A	ZC833B	J2B
ZC834	J5S	ZC834A	J5A	ZC834B	J5B
ZC835	J6S	ZC835A	J6A	ZC835B	J6B
ZC836	J7S	ZC836A	J7A	ZC836B	J7B



Diode Capacitance